

REMARKS

Summary Of The Office Action & Formalities

Claims 1-9 are all the claims pending in the application. By this Amendment, Applicant is amending claim 1 to correct a minor typographical error and adding new claims 10-18. No new matter is added.

Applicant thanks the Examiner for acknowledging the claim to foreign priority and for confirming that the certified copy of the priority document was received.

Applicant thanks the Examiner for confirming that the drawings filed on May 9, 2002 are acceptable.

Applicants also thank the Examiner for initialing the references listed on form PTO-1449 submitted with the Information Disclosure Statement filed on July 23, 2002.

The prior art rejections are summarized as follows:

1. Claims 1-9 are rejected under 35 U.S.C. § 102(b) as being anticipated by USP EP 0421304 ("EP '304"), which lists the assignee of the present application, HORIBA, LTD., as the applicant.

Applicant respectfully traverses the prior art rejections.

Claim Rejections - 35 U.S.C. § 102

1. Claims 1-9 In View Of Ishida et al.

In rejecting claims 1-9 in view of Ishida et al., the grounds of rejection state that:

Regarding claim 1, 304 teaches an optical detector compromising a window material (4) for transmitting light such as infrared and ultraviolet rays, a sealed case (1) whose opening is blocked by the window material, detection elements (8a, 8b, 8c,

8d) being formed opposite to said window material in said sealed case, optical filters (9a, 9b, 9c, 9d) disposed between said window material and said detection elements, which transmits only light composed predetermined band of wavelengths by thin optical films, each optical filter corresponding to each detection elements, and a shielding body (6) supporting said optical filters and preventing any light composed of other than the predetermined band of wavelength selected by said thin optical films and light producing an interference effect during measurement from being transmitted through said optical filters (col. 7, lines 30-58, col. 10, lines 2-18, and Fig. 1-4).

Regarding claims 2-9, 304 depicts numerous housing portions (Fig. 4), and the surface of the shielding body is positioned higher than the surface of the optical filters (Fig. 3). They also teach that the body is blackened to absorb infrared rays (col. 7, lines 32-38). Fig. 1 clearly depicts the claimed upper opening through which light passes and a lower surface for light of a predetermined band of wavelength to pass. Further, Fig. 4 depicts the use of a filter receiving portion (10) for mounting the optical fibers as part of an undersurface.

Office Action at page 3. Applicant respectfully disagrees.

Regarding claim 1, and contrary to the grounds of rejection, EP '304 does **not** disclose “a shielding body (6) supporting said optical filters and preventing any light composed of other than the predetermined band of wavelength selected by said thin optical films and light producing an interference effect during measurement *from being transmitted through said optical filters.*”

Rather, as clearly illustrated in Figs. 1 and 2 of EP '304, the holder 6 defines four groove-like housings 7a-7d in which the detecting elements 8a-8d are disposed, ***not the optical filters 9a-9d.*** To the contrary, the optical filters are shown placed ***on top*** of the holder 6, such the ***holder*** 6 does not prevent light that produces an interference effect from being incident on the optical filters. Moreover, groove-like housings 7a-7d are ***opened*** at one end.

The written description in EP '304 lends further support to Applicant's foregoing position:

Reference numeral 6 designates a holder made of highly heat-conductive materials, such as aluminum, arranged in the case 1 corresponding to said window material 4, ***said holder 6 being provided with four groove-like housing portions 7a, 7b, 7c, 7d with one end closed and the other end opened, and said respective housing portions 7a, 7b, 7c, 7d being provided with PbSe 8a, 8b, 8c, 8d as an infrared ray detecting element housed therein.***

Reference numerals 9a, 9b, 9c, 9d designate optical filters ***placed on a mouth portion of the housing portions 7a, 7b, 7c, 7d to be mounted on the holder 6*** for selecting a wavelength band of infrared rays incident upon said respective PbSe 8a, 8b, 8c, 8d

EP '304 at column 7, lines 42-57 (emphasis added). Indeed, EP '304 further discloses that the optical filters are "integrally adhered to each other with adhesives at end faces thereof so that the respective substrates 10 may form ***one surface***" EP '304 at column 8, lines 36-39. Clearly, therefore, the holder 6 also does not prevent light from being transmitted between optical filters.

Applicant notes the Examiner's reference to the disclosure at column 10, lines 2-18, which refers to the prevention of infrared rays leaking from the end faces of the substrates 10. Absent from this particular disclosure is any reference to the holder 6 as preventing such leakage. Rather, EP '304 refers to Fig. 3, which only shows the filter elements with its substrates, and states the importance of having the end faces of each of the substrates 10 bonded to each other to form a one piece plate. This is a very different approach to that of the present invention as recited in claim 1. In fact, the arrangement in EP '304 would *teach away* from the structure of the present invention.

Applicant further notes the in description in paragraph [0003] at page 3 and Fig. 7 of the present application, conventionally, the edge faces of the optical filters are bonded by the adhesive agent 77. The light C' incident from the edge face of the optical filter and the light A' reflected in the optical filter and passing to the adjacent filter are not shielded. Since these light rays A' and C' do not pass the short-long cut pass surface of the optical, these light rays include components other than the predetermined band defined by the optical filter and will interfere the measurements.

As noted above, in EP '304, edges of optical fibers 9a to 9d are bonded by adhesive agent 13 (*see, e.g.*, Fig. 3), which is similar to the configuration of Fig. 7 of the present application. Therefore, the above-mentioned problem can occur in the structure of EP '304.

In order to solve the problem, the present invention provides "a shielding body supporting said optical filters and preventing any light composed...from being transmitted through said optical filters."

The grounds of rejection consider the holder 6 of EP '301 as corresponding to the Applicant's recited shielding body, because the holder 6 supporting the optical filters 9a to 9d. However, as explained above, the holder 6 does not prevent the light composed of other than the predetermined band of wavelength selected by the thin optical films from being transmitted through said optical filters.

According to the present invention, the shielding body is provided to prevent the light from entering in to the optical filter from the edge face (scraped face) (at where no filtering

function is provided) so that the light other than the predetermined band of the wavelength is prevented from being transmitted through the optical filter.

In view of at least the foregoing distinctions, the Examiner is kindly requested to reconsider and withdraw the rejection of claim 1 and dependent claims 2-9.

Moreover, with respect to claims 3 and 4, in particular, it is clear from Fig. 1 that the end the surface of the shielding body is *not* positioned higher than the surface of the optical filters. The Examiner points to Fig. 3 to argue otherwise, however, Fig. 3 merely shows the optical filter elements and substrate 10. Figure 1, on the other hand, shows the optical filter elements disposed *above* the uppermost surface of the holder 6.

New Claims

For additional claim coverage merited by the scope of the invention, Applicants are adding new claims 10-18. Claim 11 is believed to be allowable, since the applied art does not teach or suggest the recited supporting structure for an optical filter with a recessed opening. Claims 10 and 12-18 are believed to be allowable at least by reason of their respective dependencies.

Submitted herewith is an Excess Claim Fee Payment Letter with Fee. Applicant notes that upon filing the application it paid for a total of 24 claims and for multiple dependent claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

U.S. Application No. 10/072,960
Amendment Under 37 C.F.R. § 1.111

Atty. Docket No. Q68501

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Raja Saliba
Registration No. 43,078

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: February 20, 2004